DOCUMENT RESUME

ED 040 767 PS 003 650

AUTHOR Moore, Donald R.
TITLE Language Research and Preschool Language Training.
PUB DATE [70]
NOTE 57p.; Paper to be published as a chapter in "Promising Practices in Language Training in Early Childhood Education," edited by Celia Lavatelli, University of Illinois Press, in press (1970)

EDRS PRICE EDRS Price MF-$0.25 HC-$2.95
DESCRIPTORS Abstraction Levels, *Child Language, *Cultural Differences, Cultural Disadvantagement, *Language Development, *Language Programs, Language Skills, *Literature Reviews, Subculture, Teaching Methods

ABSTRACT

This paper reviews literature on subcultural differences in language development to find out what the literature suggests about the nature of a language program for lower class 4-year-olds. The following conclusions are reached: (1) differences in syntactic and phonological competence are not important barriers to communication for the lower class preschool child and should not be the focus of preschool language training; (2) of the many subcultural differences in language, the major one which puts the average lower class child at a "disadvantage" is his relative lack of ability to use a precise language of description; (3) the literature on subcultural differences in language use identifies many of the specific language skills used in this abstract type of language; (4) the traditional preschool is not likely to foster the use of the specific language skills which the lower class child most needs to master; (5) of two broad types of more focused language intervention programs (one in which the teacher's response is contingent on the child's and one in which the child's response is contingent on the teacher's), the latter, more highly structured, program will probably be more successful in teaching the crucial language skills. (Author/DR)

U. S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

ED040767

Language Research and Preschool Language Training

by Donald R. Moore

Harvard University

Introduction

I. Locating the "Disadvantaged"

II. Relevant Distinctions from Transformational Grammar

III. Subcultural Differences in Syntax and Phonology

A. Differences in Language and Differences in Intelligibility

B. Missing Syntactic Rules and Slow Development of Syntactic Rules

IV. The Influence of Situations on Language Performance

A. Cognitive Demands of Communication Situations

B. Social Demands of Communication Situations

V. Studies of Semantics and Cognitive Development

A. Vocabulary Studies

B. Category Formation

C. Language Associated with Conservation and Nonconservation

VI. Additional Investigations

A. Language Skills Associated with Success in Reading

B. Direct Observation of Children

VII. Summary of Language Skills Described So Far

VIII. Teaching Situations

A. Informal Emphasis on Verbal Skills

B. Teacher's Response Contingent on Students

C. Student Responses Shaped by Teacher

Summary

Table I Two Correct Responses on Either Imitation or Comprehension. N=16 in each gro

Table II Language Skills for a Compensatory Language Program

PS003650

Introduction

Much recent attention has been focused on the possiblility of intervening at an early age in the lives of so-called "disadvantaged" children to attenuate alleged deficiencies in their language development which limit later educability. This paper is a selective and critical review of theory and empirical investigations relevant to specifying the nature of such a program. It draws primarily on work in linguistics, psycholinguistics and sociolinguistics which illuminates the patterns of language development in children and the nature of American subcultural differences in language development.

This analysis is seen as one part of a program of analysis and research that is necessary to specify the answers to two related questions:

(1) What specific subcultural differences in language ability limit the educability of "disadvantaged" preschool children?

(2) What instructional methods and situations will be most effective in teaching these abilities?

The bulk of this paper is devoted to the first question. Much less evidence exists on the second question, and the conclusions of the section on instructional methods must be regarded as especially tentative. The aim of both major parts, however, is not to provide definitive answers that can be immediately translated into widespread programs, but rather to provide specifically stated hypotheses that can be tested in training experiments.

I. Locating the "Disadvantaged"

The terms "lower class," "disadvantaged," and "subcultural differences" are used in this paper. With reference to the use of these terms, it is important to make two points clear:

(1) Only a small subset of the total set of language differences observed between individuals and between groups put certain individuals or groups at an educational disadvantage.

(2) Group designations (such as social class) should be regarded only as gross preliminary classifications that are useful at this stage in research on language and education. They should not be employed to prescribe identical language programs for every individual who falls into a given social group.

With respect to the first point, the study of subcultural language differences and the development of language programs have been plagued with the unquestioned assumption that any deviation from the standards of white middle class speech puts the "deviant" child at a disadvantage and must be remedied (see page 11). An important theme running through this paper is the attempt to distinguish among the many observed subcultural differences in language use in order to isolate those differences which have the most important consequences for educability and should thus be the focus of a preschool language program.

With respect to the second point, it is crucial that the reader understand the sense in which racial and social class designations are employed in this paper and the relation that they should have to the design of educational programs.

This paper reviews many studies that have employed a child's "social class" and "race" as independent variables and that have employed as dependent variables various aspects of the child's language use. The use of social class as an independent variable in the study of linguistic development raises particularly difficult problems, because as Lesser et al., 1965, point out:

> Although the assessment and interpretation of social class characteristics has been studied for many years, no generally adopted concept for the measurement of membership in a social class has emerged. Membership has been variously viewed as a way of life, the exercise of power over persons and resources, or a composite of objective properties such as occupation, education and area of dwelling (quoted in Lesser et al., 1965, p.25).

What is the relevance of these sociological investigations for the development of educational programs for preschool children? A moderately large correlation has been consistently observed between social class (as measured by simple objective indicators like occupation of family head) and measures associated with school success. For example, intelligence and academic achievement both correlate about .4 with social class (Bloom et al., 1965, pp. 98, p. 177).

Thus, it seems a reasonable strategy in developing information about the nature of the abilities children bring to the educational process to investigate differences between various social class groups. It seems a useful working hypothesis to say that families occupying a similar position on social class indicator scales might more often than not have certain attitudes and objective circumstances in common which would influence (and sometimes limit) their children's development in ways that have important consequences for their educability.

It should be apparent, however, that if one finds a correlation of .4 between social class and intelligence, for example, this does not indicate that all lower class children possess a certain type of disability and should thus be given the same type of educational treatment. This is clearly indicated by the results of a study of the IQ's of grade school children in Riverside, California (Wilson, 1967, II, p. 173). The mean IQ of white lower class boys was 98, while the mean for boys from professional families was 111. Nevertheless, about a quarter of the lower class children ranked above the mean for the professional children. Clearly, it is ludicrous

to assume that all lower class children in Riverside are "disadvantaged" and should receive the same type of compensatory educational program, even though the average lower class child is 13 points below the average professional child in tested IQ.

Thus, the terms "lower class child" and "middle class child," as they are employed in the rest of this paper, should be considered only to apply to the average child within a given group in a given study and not to any individual child (unless his particular characteristics are compared to group norms). The same qualification applies to the use of racial designations and to the term "subculture," which is used as a handy shorthand term for a combination of race and social class.

With these qualifications in mind, one can examine some of the basic work in linguistics that has contributed to the study of subcultural language differences.

II. Relevant Distinctions from Transformational Grammar

Several important facts about the nature of language, explicated by Chomsky (1957), force on us a notion of language quite different from that formulated, for example, by traditional learning theory. First, language is rule-bound and the nature of these rules is much more complex than the traditional notion of "association." Second, the system of rules that a speaker employs enables him to speak and understand an indefinitely large number of sentences which are novel to him but which are a consistent extension of his rule system. It is, in Chomsky's view, the fundamental task of linguistics to provide a formal characterization of the nature of these rules.

An idealized version of the speaker-listener's language, which Chomsky calls his language "competence," is distinct from "performance" or the actual use of language:

> We thus make a fundamental distinction between competence (the speaker-hearer's knowledge of his language) and performance (the actual use of language in concrete situations) (Chomsky, 1965, p. 4).

Chomsky and those who have followed his transformational grammar approach have attempted to develop rules of language competence for what have generally been considered the three main areas of language study: syntax, phonology, and semantics. The approach has proved most effective in the study of phonology (sound patterns) and syntax (roughly, relations between words in sentences) (e.g., Klima, 1964a; Halle, 1964; Chomsky, 1965; Rosenbaum, 1965). Although some attempts have been made to apply the transformational approach to semantics or language meaning (e.g., Katz and Postal, 1964), this area of study is not nearly as well-developed as the study of syntax and phonology.

The first part of this paper is broadly organized around the three major areas which have been of concern to students of language as they apply to the development of a preschool language curriculum. Section III deals with studies of syntactic and phonological competence. Section IV deals with performance factors, primarily as they influence patterns of language syntax. Section V deals with studies of semantics.

A final introductory point requires clarification with respect to linguistic theory. The types of grammars that the linguist writes are not intended as models of the actual psychological processes by which people

PS 003650

produce and comprehend sentences (e.g., in the sense that the order of rules in a grammar has some relationship to the temporal order of processes of a person understanding sentences or that the complexity of the grammatical description of a sentence is related to the difficulty a listener might have in understanding it) (Chomsky, 1965, p. 9). It may be that some such relations exist, but this is a hypothesis that requires testing in each individual situation.

III. Subcultural Differences in Syntax and Phonology

The use of grammatical analysis by Chomsky's methods has proved extremely valuable in the empirical study of the development of children's language and in the analysis of subcultural differences in children's language. Basic work on language acquisition has been done by Brown, Cazden and Bellugi (1967), who have collected longitudinal data on the mother-child language interactions of three children (Adam, Eve and Sarah). Their analysis has demonstrated that from the earliest two-word utterances, children's language can be described by the types of syntactic rules Chomsky has outlined (Brown and Bellugi, 1964) and that later developments in the syntax of these children can also be described effectively using the rules of transformational grammar (Bellugi, 1966, 1967).

The success of the transformational approach with these subjects has suggested to a number of investigators that it might be an extremely useful way of describing subcultural language differences. The fact that the language of Brown's subjects was found to follow rules at each stage of its development suggests that the language of lower class Negro and white children must be viewed much differently than it has been by many past investigators (e.g., Templin, 1957; Pederson, 1964; Williamson, 1965).

These investigators have assumed that any deviation from the idealized standard English of the high school grammar book is an unsystematic "error" on the part of the speaker. Thus, Templin notes that lower class white children say "I got" and "I can" instead of "I have" and "I may" (Templin, 195 , p. 96). Pederson finds that Negro children say "fo" instead of "for" (Pederson, 1964, p. 33); and Williamson, that Negroes tend to say "dentis" instead of "dentist" (Williamson, 1965, p. 25).

Just as the work of the Brown group has established that the speech of the child is not a random deviation from adult norms, so analysis of the speech of various subcultural groups has demonstrated that it too is in conformity with a rule system of its own. For example, Klima (1964b) has described the syntactic rules that differentiate four dialects in their use of "who" and "whom" in relative clauses. Labov (1966, p. 11) describes the rules that generate "I asked Alvin if he knows how to play basketball" in standard dialect, but "I asked Alvin do he know how to play basketball" in certain Negro dialects. Labov (1968) has also analyzed phonological rules underlying Negro dialects in New York.

The fact that rules of phonological and syntactic competence underlie the language of children from diverse subcultural groups provides a useful framework in which to evaluate three hypotheses about language differences between subcultural groups which have implications for the development of a compensatory language curriculum:

(1) Phonological and syntactic differences between speakers of American dialects cause difficulties in mutual intelligibility.

(2) Speakers of certain dialects have fewer syntactic rules in their grammar and thus their dialect is a less adequate device for communicating ideas.

(3) There are not major differences in the grammatical rules employed by various subcultural groups, but certain groups are slower in their rate of development of these rules (based on Cazden, 1967).

A. Differences in Language and Differences in Intelligibility

Two types of evidence can be brought to bear on the analysis of phonological and syntactic differences and their consequences for intelligibility between speakers. First, the extent of divergence between the phonological and syntactic rule systems for various dialects can suggest the nature of possible difficulties in intelligibility between speakers. The primary focus of this discussion will be on differences between rule systems of Negro dialects and standard English, since Negro dialects generally constitute more extreme divergences from standard English than the speech of lower class whites. (Loban, 1966, shows this clearly in spite of the fact that he treats deviations from standard English only as "errors.")

It should be noted that many Negroes do not speak a distinct dialect; the largest differences occur in the case of Southern rural Negroes. As Negroes live in the north they tend to adopt more and more features of the standard dialect (Labov, 1967, p. 143). Nevertheless, the work of several investigators reveals syntactic and phonological differences between the dialects of some Negro groups and whites. Below is a list of syntactic differences isolated by a number of empirical studies of children's language (Labov, 1966, 1967; Loban, 1966; Baratz, 1968; The Board of Education of the City of New York, 1968):

1. Omission of "s" in third person, singular ("He walk" instead of "He walks")
2. Use of double negatives and ain't.
3. Omission of the possessive ("Mary husband" instead of "Mary's husband").
4. Omission of the verb "be" in present tense copulative sentences ("He sick" instead of "He's sick").
5. Nonstandard "if-did" construction ("Ask Alvin do he want to play basketball" instead of "Ask Alvin if he wants to play basketball").
6. Lack of subject-verb agreement ("We is here now." "You is too much").
7. Nonstandard future tense ("I'm a hit you." "He goin' hit you").
8. Omission of "do" in some questions ("How he fix that?).

9. "Be" in place of other "be" forms ("He be in the hallway.")
10. Omission of the past tense ("He walk" instead of "He walked.")
11. Aspect use of "be" ("He be tired" meaning "He's always tired.")

On its face, this list does not suggest that syntactic differences between dialects present major barriers to intelligibility between Negro and white speakers. For example, the first nine differences listed do not involve the loss of important semantic information (e.g., the possessive relationship is still clear from word position even with the "s" omitted; "be" in present tense copulative sentences carries no semantic information and is omitted in some languages).

Additional careful study of these syntactic differences further undercuts their importance within the grammatical system. Labov finds that the "-ed" is often present in the Negro child's speech and accounts for its lack in many sentences on the basis of phonological rather than syntactic rules (specifically the simplification of final consonant clusters) (Labov, 1967, p. 158). He also concludes that the omission of the copulative form only occurs in certain grammatical contexts but is basically present in the child's grammar (Labov, 1966, p. 6).

Analysis of speech samples from a group of 2-year-old lower class Boston Negroes failed to find several of the differences cited by other investigators. Cazden (1967, p. 17) reports that the possessives, past markers, and third person indicatives (and also plurals and progressives) were developing in the same patterns in the grammar of her lower class Negro subjects as were those of the subjects studied by the Brown group.*

Working with the same sample, I compared stages in the development of copulatives in Cazden's subjects with those I observed in Brown's. I found three stages in copulative development, each characterized by a distinct grammatical rule, which were identical both for Brown's subjects and Cazden's lower class Negro subjects (Moore, 1968, p. 17).

The last difference cited on page 8, the aspect use of "be," seems somewhat more basic in terms of grammatical rules (Stewart, 1965, p. 60). Along with the absence of the past marker, it is also a syntactic difference which could give rise to semantic misunderstandings between speakers from different subcultural groups. It does not, however, seem to be used by all Negro speakers. It is not present in the protocols of Cazden's Boston Negro subjects.

The most complete phonological analysis of Negro and white children has been done by Labov (1968). Here is a list

---

* Cazden did not gather background information (e.g., parents' occupation and education) on her subjects, but rather based the judgment that they were disadvantaged on the fact that they spent all day in a day care center where they received almost no language stimulation. It would seem a valid inference to consider these children as comparable to the children designated lower class in other studies, but the reader may question this judgment.

of the major types of differences he observed, as summarized in Labov (1967):

(1) Omission of "r" before consonants or as a final sound (guard=god, court=caught)

(2) Omission of "l" before consonants or as a final sound (toll=toe, help=hep)

(3) Simplification of consonant clusters at the ends of words (past=pass, rift=riff, meant=men, mend=men, hold=hole, let's=les, that's=thas)

(4) Weakening of final consonant (boot=boo)

What are the effects of these phonological differences between white and Negro dialect? As Labov argues, they create a number of homonyms for the Negro speaker that are distinct in the standard dialect (Labov, 1967, p. 113). However, the standard dialect also contains a great many homonyms which appear frequently in everyday speech (e.g., "there" and "their"). Generally, the correct alternative from a pair of homonyms is distinguishable from its context. Thus, the phonological patterns of the Negro dialect increase somewhat a problem that is common in all languages and must be dealt with by all speakers and listeners.

As stated earlier, differences between the syntax and phonology of different groups can only <u>suggest</u> differences in actual speech performance, in this case difficulties in intelligibility. Before significance of the syntactic and phonological differences outlined above can be interpreted further, it is necessary to consider some of the evidence on actual language performance.

Recent sociolinguistic research has focused particularly on the nature of communication between persons speaking different dialects or languages. The picture that emerges is that individuals are extremely flexible in comprehending and speaking a variety of languages and dialects. The monolingualism of most American speakers is atypical in the world; the majority of the world's people speak two languages or at least two quite distinct dialects (Macnamara, 1967; p. 2). Such languages or dialects are generally used in distinct realms of activity, and thus speakers use suitable codes in different situations. For example, many countries employ one dialect for formal interactions and another in the home (Ferguson, 1964, p. 429). Or, in a society with a rigid social structure, the type of dialect one uses may be defined by one's social position relative to another person (Gumperz, 1964, p. 150). Or it may vary systematically with the topic of conversation (Gumperz, 1964, p. 151). Conversations between speakers of distinct dialects who can understand one another but cannot speak the dialect of the other person are extremely common in many communities (Ervin-Tripp, 1967, p. 82). Even in relatively homogeneous speech communities there are still systematic shifts in style governed by the nature of the social interaction--for example, shifts in method of addressing a person (Ervin-Tripp, 1967, p. 8).

There is a good deal of evidence that this sort of flexibility is also present in speakers from various subcultural groups within the United States. For example, Stewart (1965, p. 58) describes the facility of a group of Negroes in Bloomington, Indiana in switching from a standard English dialect spoken with outsiders to a private Negro dialect spoken on social occasions within their group.

Of particular interest are several types of investigations of

children's abilities to comprehend dialects they do not speak. First, Deutsch (1967, p. 194) administered the Wepman Auditory Discrimination Test to Negro and white first and fifth graders of various social classes. This test requires the child to tell whether pairs of words pronounced in the standard dialect are the same or different. There was no significant Negro-white differences at either grade level. A similar and much more stringent test was made by Labov (1967, p. 160) on some of his Negro subjects. He asked them to discriminate between the present and past tense of several verbs, employing distinctions the boys didn't make in their own speech (e.g., "mess" vs. "messed"). None had any trouble making such distinctions. Thus, on a phonological level, the work of Deutsch and Labov suggests that children from different subcultural groups can readily hear sound distinctions in standard English that they don't make themselves.

Cherry-Piesach (1965) attempted to assess the ability of Negro and white first and fifth graders from various social class backgrounds to understand their teacher and their fellow classmates. Using the Cloze procedure, she systematically deleted words from samples of teacher and pupil speech and asked her subjects to fill appropriate words into these spaces. Of course, this task taps far more than difficulties stemming from differences in dialect, as its significant correlation with IQ suggests. Of six measures of the quality of fill-ins in the teacher's speech sample (three at each grade), only one showed a significant Negro-white difference, and this difference disappeared when IQ was controlled. On the children's speech samples, Negroes and whites performed equally on Negro samples, but whites were superior to Negroes on white samples. If this represents a difficulty caused by differences in phonology or syntax between Negroes and whites, then it is a one-way difference, since white scores were equal to those of Negroes on Negro speech samples.

Investigators who have employed sentence imitation tasks with Negroes and whites provide further evidence regarding intelligibility between subcultural groups. All three (Labov, 1966; Osser, 1967; and Baratz, 1968) report that Negro children, asked to imitate sentences in standard English, systematically shift the phonology and syntax of the sentence into their own dialect. Both Osser and Baratz found this to be true with the major syntactic differences between Negro and white grammar outlined on page 8. In addition Baratz tested white children on imitation of sentences in Negro dialect and found similar shifts toward the white children's own grammar. Let's look closely at an example of this phenomenon to draw out its implications for intelligibility. If a boy is asked to imitate "Ask Alvin if he wants to play basketball," and responds, "Ask Alvin do he want to play basketball," it is clear that he has (1) understood the sentence, and (2) shifted to its semantic and syntactic equivalent in his own language system. Thus, the ability to understand a dialect one doesn't speak is clearly present in the lower class preschool Negro subjects tested by Osser and Baratz, as well as the adolescents tested by Labov.

Linguistic and psycholinguistic evidence from a variety of situations then seems to have clear implications for a preschool compensatory program. It has been shown that the syntactic and phonological differences between the language of various American subcultures are relatively minor, that speakers throughout the world have a great flexibility for communicating across dialect barriers and can readily understand dialects they don't speak, and that Negro lower class preschool children have demonstrated that they can understand phonological and syntactic structures they don't use themselves. Thus, on grounds of mutual intelligibility there seems to be no reason for the educator to attempt to teach the child to speak the standard dialect. The evidence indicates that a child who is exposed to this dialect will be

able to understand it without speaking it. The preschool child who speaks a nonstandard dialect should be exposed to a speech model from the standard dialect, perhaps with special emphasis on discriminating distinctions in the standard dialect different from those in the nonstandard dialect.

Some have asserted that the child's speech patterns must be changed for social reasons even if other problems do not exist. For example, Loban (1966, p. 1) argues that nonstandard language patterns stigmatize a child in the essentially white middle class society with which he must deal. In addition to the moral arguments that might be made against such a position, there are a number of practical ones. First, contact with members of one's family and peer group who use one's own dialect are a powerful counterforce against changes in pronounciation and syntax (Cohen, 1965, p. 74). Attempts to change the dialect of random groups of children have consistently failed (John, 1967, p. 5), including one training attempt that went on for 3 years (Lin, 1965). It appears that a person must have a specific motivating reason to change his speech habits, and this motivation is not likely to be found in the lower class preschool child. Constant "correction" of the child's speech is likely to cause only antagonism and frustration and should be avoided in a compensatory preschool program.

B. Missing Syntactic Rules and Slow Development of Syntactic Rules

There may, of course, be many reasons why a lower class child does not express himself as adequately as a middle

class child. The final two questions raised earlier ask whether such difficulties can be traced to the fact that the lower class child has fewer syntactic rules in his grammar or that such rules develop at a slower pace for him. Evidence presented in the previous section of this paper is relevant to answering this question. For example, if it were true that the past tense was missing from certain Negro dialects, one might argue (although this hypothesis would have to be put to an empirical test) that the Negro child couldn't understand or express action in the past. As Labov's analysis shows, however, the past tense is not missing from Negro dialects, since irregular past forms which are extremely common in everyday speech are used correctly by Negro speakers and since the regular past (-ed) is often present in the child's speech but is deleted because of consonant cluster simplification in some contexts (Labov, 1967, p. 157).

Other evidence already presented suggests that basic grammatical markings and patterns are not missing in the early development of the lower class child's grammar. Cazden found the use of plurals, past markers, possessives, third person indicative, and progressives to follow the same patterns in lower class Negro children as in Brown's three middle class and lower middle class children and to be developing at the same ages.* My own study of the development of the copulative in Brown's and Cazden's subjects showed that the lower class Negroes were acquiring the same rules and developing them at the same pace as Adam, Eve, and Sarah (Moore, 1968,

---

*See footnote on page 10.

p. 17).

Within Brown's small group of subjects, it is possible to compare middle class Adam and Eve with lower middle class Sarah. Although the speech of Sarah's mother is more restricted in some respects than is the speech of Adam's and Eve's mother(Cazden, 1967, p. 12), Sarah's grammatical development was about the same as Adam's in terms of age (although both lagged behind precocious Eve). In addition to age, mean length of utternace has proved a useful scale on which to assess grammatical development. Thus, one can compare the development of various children's grammars when the average length of the sentences they use is equal. On this scale of development Sarah is more advanced than either Adam or Eve. In my study of copulatives, for example, she was the only child of the three to use the adult rule for copulatives in over 90 percent of her utterances before her mean utterance length had reached 5 morphemes (Moore, 1968, p. 18). The course of Sarah's grammatical development then provides some further support for the position that lower class children do not have rules missing from their grammar nor do they lag behind the middle class in the acquisition of these rules in the early period of grammatical development.

It might be argued that all children acquire certain basic grammatical structures at a young age but that there are subcultural language differences in the acquisition of more complicated structures acquired at a later age. Bellugi compares lower middle class Sarah and middle class Adam in later grammatical development of rules for negation. She finds no differences between the two on such complicated negative patterns as negation within relative clauses (e.g., "That means you don't like it?") and negative tag questions (e.g., "This is Boston, isn't it?") (Bellugi, 1967, pp. 127-155).

The best evidence concerning the development of syntactic rules would come from an investigation which collects a large sample of children's speech (e.g., Brown, Cazden, and Bellugi, 1967). Other methods have been employed for testing syntactic development, including sentence imitation, ability to make appropriate transformations of sentences (e.g., "Ask the puppet why he's not tired"), ability to decide which of a set of pictures is described by a given sentence, and ability to follow directions which involve various syntactic structures (e.g., Cazden, 1967, p. 148; Bellugi-Klima, 1968; C. Chomsky, 1968).

Such short-term tests, however, run the danger of underestimating the nature of the child's grammar, since he may be inhibited by the presence of a strange tester, suffer short-term lapses of attention, or be responding to other situational factors that mask his underlying competence. Of course systematic differences in ability in such testing situations are of interest in their own right, but one must be cautious in interpreting them as reflecting differences in grammatical competence.

These investigators have applied such tests to children of different social classes in the later stages of grammatical development (ages 4 to 6). Shriner and Miner (cited 1967) tested the ability of 4-year-old children from middle and lower class backgrounds to employ appropriate morphological endings (pluralizations, verb endings, and possessives), using a test developed by Berko (1958). The authors do not identify the race of the two social class groups. They found no differences in the mastery of these forms between social classes.

LaCivita, Kean, and Yamamoto (1966) conducted a study (summarized in Cazden, 1969, p. 2) which lower-middle and upper class elementary school children were asked to give the meaning of nonsense words in sentences such as the following:

Ungubily the mittler gimmled. (grammatical signal -ed only cue)

A twener baikels meedily. (grammatical signal plus position cue)

They hypothesized that lower-middle class children would be less able to give a word that was the same part of speech as the underlined nonsense word. This hypothesis was not confirmed.

Imitation and comprehension of more complex syntactic structures were employed by Osser et.al. (1969) in comparing 5-year-old lower class Negro and middle class white children. Both the imitation and comprehension tasks are based on the same 13 grammatical structures. Osser found that the lower class Negro children made significantly more errors on the comprehension task. He also found that they made significantly more errors on the key grammatical structures on the imitation task, even when the responses on this task were corrected for dialect differences. Osser concludes that his results "strongly suggest that the Negro lower class group's control over some common syntactic structures in standard English is markedly inferior to that of whites" (p. 1073). This conclusion seems unjustified in the light of a closer examination of the data presented. The average Negro lower class student got 20 of 26 items correct on the comprehension task (as opposed to 24.3 of 26 for the white middle class child, and 21.4 of 26 items correct on the imitation task corrected for dialect (as opposed to 23.9 of 26 for the middle class child). These results are statistically significant, but hardly seem to warrant the conclusion that the control of grammatical structures is "markedly inferior" for the lower class black child. The relatively small differences observed might be traced to the unfamiliarity of the lower class Negro child to test situations. In any case, it is clear that the Negro lower class children exhibited substantial grammatical control of the structures (about 75% correct on each test.)

A quite different pattern of response has been observed in developmental studies where the lack of a grammatical rule has been inferred. For example, Carol Chomsky (1968) found that until children ages 6 to 10 could use certain prerequisite syntactic forms, they are never able to give appropriate responses to instruction that involve some fine points of grammar (e.g., when told to "ask Joe what to feed the doll," such children invariably respond with an answer (e.g., "the cucumber") instead of an appropriate question).

As the reader can see, the work that has been done so far in comparing the syntactic development of children across social classes is very fragmentary. Ideally what is needed is a longitudinal study similar to the one conducted by Brown, Bellugi, and Cazden of the syntactic development of children from different ethnic groups and social class backgrounds.

However, the studies which exist indicate that there are not basic syntactic rules "missing" from the grammars of lower class white and Negro children, nor is there a lag in the grammatical development of such syntactic rules between subcultural groups. Thus, the development of a child's grammatical competence does not appear to be an important focus for a compensatory language program. As Osser's work suggests, it is not the absence of the grammatical rule in the child's competence that limits his educability, but rather his inability to use such rules as efficiently as the middle class child in

particular situations. It is such situational performance differences between subcultural groups that will be considered next.

IV. The Influence of Situations on Language Performance

Turning from questions of differences in competence to differences in performance, an area of possible subcultural differences in language development is suggested by the emphasis of sociolinguists like Hymes (1964a, 1964b, 1966, 1967) on the interaction of characteristics of the speaker with characteristics of the situation in actual language performance. A child may possess a certain syntactic structure as evidenced by its presence at several places in a large sample of his speech but may not be able to use it in a specific situation. Or he may possess a basic rule (e.g., for the formation of a basic noun-adjective combination) but be unable to apply the rule recursively when the situation demands a greatly elaborated set of adjectives to specify a particular object accurately. A good deal of evidence is accumulating which suggests that important relations exist between the language performance of the individual and the situations in which he performs.

For example, an early study by Young (1941, p. 77) showed significant differences in mean sentence length in four different settings in which children's speech samples were collected. With respect to phonology, Labov (1965, p. 81) found marked variations in situations he called "casual," "careful," "oral reading," and "word list reading." And Cazden summarizes results from the study of two 6-year-olds in seven situations where mean sentence length was measured by stating that "the situational variance for each child is greater than the overall differences between the two children." (Cazden, 1967, p. 148).

Brown, Cazden, and Bellugi (1967, p. 56), drawing on their longitudinal study, conclude that:

> There seems to be something like a standard frequency profile for mother to child English ... and in this profile great inequalities exist even among very simple and familiar constructions.

Slobin (1968) presents results from the study of Oakland Negro families that show a similar mother-child frequency profile and further show that there is a markedly different frequency profile when the same mother talks with an adult friend.

With the knowledge that variations in situations are related to variations in language use, several sociolinguists have recently called for the analysis of social setting and social function as an integral part of language analysis:

> The rules of verbal output and comprehension must be organized to specify social features (Ervin-Tripp, 1967, p. 3).

Likewise, Hymes (1964, p. 8) advocates "approaching language and communication in integral relation to social context and function." The goal of this approach is the systematic specification of the ways in which social situations interact with characteristics of speakers to determine language performance. To this end, Ervin-Tripp (1967, p. 53) and Hymes (1964, p. 15) have developed roughly similar typologies for an integrated description of linguistic and social variables as they affect language performance.

Based on this work, it is useful for the purposes of this paper to distinguish two broad types of situational influences on language performance, which I will characterize as the "social" and "cognitive" demands of the situation. Social demands include such variables as the status and roles of conversants, their attitudes toward language communication, their motives in a particular speech interaction, etc. Cognitive demands include such factors as the complexity of speech required to communicate a given message, the extent to which one can rely on "props" within the situation to ease the burden of communication, the difficulty of the vocabulary required for communicating a given message, etc.

With respect to social class differences in language performance and the cognitive and social demands of situations, challenging hypotheses have been formulated by Bernstein (1962a, 1962b, 1964, 1965, 1967). Central to Bernstein's approach is the contention that most middle class speakers can employ both a "restricted" and "elaborated" language code, while the lower class speaker tends to be limited to a "restricted" language code (Bernstein, 1964). One major distinction between the restricted and elaborated codes is that the restricted code is bound closely to a particular situation, while the elaborated code (through the use of specific adjectives, clauses, verb phrases, etc.) communicates independent of the specific context (Bernstein, 1965.)

Bernstein sees a social class difference in the ability to use the "elaborated" code developing because the lower class child lives in a closely knit social world where most people he communicates with have a great deal of previously shared information, reducing the need for verbal specificity; where information is often communicated by voice tone and gesture rather than by explicitly verbal means; and where the number of situations that serve as occasions for verbal interaction are limited (Bernstein, 1965.)

A. Cognitive Demands of Communication Situations

In terms of Bernstein's analysis of elaborated and restricted codes, it seems reasonable that the following set of cognitive demands would require an elaborated code:

(1) Speakers cannot rely on previously accumulated shared information.

(2) The speaker is required to take his listener into account by specifically naming referents which are not present or about which his listener lacks information.

(3) The bulk of the communication load falls on the language code itself, as opposed to such extra-linguistic activities as pointing, voice intonation, etc.

It is interesting to note that social class differences in language performance have emerged in such situations. Bernstein (1962) compared speech samples of adolescent boys from different social classes in group discussions of capital punishment and found that middle class speakers used more passives, more complex verbs, and a greater proportion of subordinate clauses (pp. 225-231).

In a replication of this study, Lawton (1964) found that middle class children used significantly more passives, subordinate clauses in general, adjective clauses, and complex verbs (pp. 185-193). Loban (1963) interviewed children each year from first through sixth grade. In these interviews, which dealt partially with past experiences, Loban found that middle class children used phrases and clauses that were structurally more complex, and that they used more infinitives and more complex noun phrases as subjects of sentences (pp. 46-49).

Krauss and Rotter (1968) have employed an experimental situation in which social class differences consistent with the work of Bernstein, Lawton, and Loban have been observed. In a communication task in which two subjects are separated by a screen, one is asked to communicate to the other the order in which blocks inscribed with nonsense forms should be put on a peg. The key problem then is to describe forms which have no simple labels. Notice that the task makes all the cognitive demands outlined on pages 19-20 for situations in which an elaborated code is necessary. With respect to social class, 6-year-old lower class speakers do poorest on the task as senders and

receivers, even when they are listening to members of their own social class. Heider (1968) has completed further work on the nature of language used in this situation. Lower class children use metaphorical descriptions to communicate information (e.g., "It's like a boat"). In contrast, the more successful middle class children use an analytic style, describing specific details of the stimulus ("It has a little opening at the top and there are sharp points on both sides").

Two studies recently completed in England provide further specific information as to the sense in which lower class preschool children employ a restricted language code.

In a study of the quality of language employed by infant school children in England, P. R. Hawkins collected speech samples in structured situations described as "narrative," "descriptive," and "instructive" (the child was asked in the "instructive" situation to describe the workings of a mechanical toy elephant to a blindfolded experimenter). He found that middle class children employed nouns more than pronouns in these situations. He also found that middle class children used a greater number of pronouns which had specific noun referents preceding them (e.g., they kicked the ball and it broke the window). Hawkins' interpretation of these results bears close similarities to the argument about social class differences in referents that have been developed in this paper.

> This difference is important for two reasons: firstly, because it enables the middle class child to elaborate--he can talk about "three big boys" but he cannot talk about "three big they"; and secondly, and more important, the middle class child can be understood outside the immediate context, without reference to the "here and now." His speech can be interpreted

> on its own, without the pictures if necessary, and he makes no assumption that the listener can see the pictures in front of him and know implicitly who is meant by he, she, it, they. The working class child, on the other hand, does make these assumptions, and his speech is therefore tied to the context in which it occurs. (Hawkins, in press)

The findings of Hawkins with respect to differences in the use of pronouns between social class groups is replicated by Tough (1969) in a study of 3-year-olds from middle and lower class backgrounds. In addition to being separated by class, Tough's lower class children are from linguistically-poor home environments and her middle class children, from linguistically-rich environments. Interestingly the groups are matched on IQ scores. In a speech sample collected while the child was playing and engaging in conversation with peers, Tough observed differences in pronoun use (similar to those found by Hawkins), in noun phrase complexity, in verb phrase complexity, in mean sentence length, and in use of subordinate clauses. She also rated sentences according to the extent that they were dependent on the situational context for their meaning and found that the middle class children used more context independent sentences.

Several studies which provide information on social class differences in adult speech show findings that are consistent with those of the above studies with children and adolescents. Among the speech differences observed by Schatzman and Strauss (1955) when they interviewed adults of different social classes after a natural disaster was the vague specification of people, places, objects, and events by the lower class respondents. For example, lower class respondents referred to "them," "some people," "over there," "down by the creek," etc., with no sensitivity to the fact that these descriptions conveyed nothing to a person not familiar with the area or actually present at the time when the events occurred (p. 330). Hess and Shipman (1965) collected the speech of mothers from different social classes as they instructed their children in the rules of complicated and unfamiliar games. They found that lower class mothers were inferior to middle class mothers on several

indices of grammatical complexity and that the quality of the mother's speech correlated with performance on the tasks (p. 875).

Also consistent with Bernstein's hypothesis are the results of several investigations in which differences in language complexity failed to appear. Deutsch, et al (1967, p. 196) collected language samples from first and fifth graders using a brightly flashing clown with a tape recorder inside, who urged the children to talk. In the resulting speech samples of what Deutsch calls "spontaneous speech," there were no social class differences in subordination, the only measure of speech complexity employed. Thus, this situation, free from the types of cognitive demands, cited on pages 19 and 20, failed to elicit social class differences in sentence elaboration.

In my own work on the copulative development of children, I examined the complexity of the subjects of copulative sentences in the speech protocols collected for Brown's middle class and Cazden's lower class children. In the mother-child interactions of the Brown protocols, over 90 percent of the subjects of copulative sentences used by both mothers and children were pronouns (like "that's," "its," "there's," "here's," "he's," etc.), and less than 10 percent were specific nouns or noun phrases. In a situation where most objects or persons discussed are perceptually present and where there is a great deal of shared information between speakers, there is little need for the precise specification of the subjects of utterances. In other words, the cognitive demands for use of an elaborated code were not present, and with respect to the precision with which the subjects of utterances were specified a restricted code was employed by both mothers and children. Comparable results were found with the lower class children in Cazden's speech samples, which were collected while the children discussed pictures in books.

One might hypothesize that in situations which impose the cognitive demands listed on pages 19 and 20, the middle class children should demonstrate. a differential ability to specify the subjects of their utterances precisely, using more complex noun phrases as sentence subjects. Some support for this speculation comes from a study of French children by Bresson (cited in Ervin-Tripp and Slobin, 1966, p. 451). He found that children tended to use vague referents for objects unless they were not perceptually present, although the names of the objects were quite familiar to them.

An interesting example of the use of a restricted code with respect to specificity of reference is contained in the protocol of one of Cazden's lower class subjects, Gerald. Gerald is the most advanced child in grammatical development in Cazden's sample on the basis of his cumulative score on her five measures of grammatical development (Cazden, 1965, p. 79). His

mean length of utterance at the beginning of her experiment is 5.20 morphemes, which is greater than any of the middle class children studied by Brown at comparable ages. Yet for all of his grammatical sophistication, Gerald employs a striking vagueness of reference. Here are some sentences from the beginning of the first sample of his speech collected by Cazden:

> And dere some more right dere.
> Dere a other girl right here.
> And dere some more right here.
> You can put dem in here.
> I gon' put dis one in 'nere.
> I already have some--in nere.
> Den gon' put dis one back in here cause it fell out.

Gerald's language use illustrates well two major points made in this paper thus far. The grammatical competence of the lower class child is not inferior on the average to that of the middle class child; it is in aspects of his language performance that one finds important social class differences.

In summary, there is a large and growing body of evidence that the cognitive demands listed on pages 19 and 20 are met inadequately by the lower class child in language communication. Furthermore, the social class language differences that have appeared when such demands have been placed on the child should serve as an important focus for a compensatory language program. Specifically, one focus of a compensatory language program should be to develop the ability of lower class children to use language which employs an elaborated syntax that includes the use of subordinates, complex noun phrases, complex verbs, passives, and modification by infinitives and phrases. Particularly important is a precise language of reference which enables the child to specifiy the characteristics of objects precisely and accurately enough so that the description is not dependent on visual "props" in the situation.

B. Social Demands of Communication Situations

The second broad category of situational influences in langage performance was called "social demands." In this area also, Bernstein's hypotheses and empirical investigations provide an important insight into social class differences that should be taken account of in a preschool compensatory language program. Bernstein argues that in her verbal communications with her child the lower class mother tends to be "status" rather than "person" oriented. Thus, she is likely to regard her child's requests for information (especially if they are pressed) as a challenge to her status. The middle class mother in contrast is more oriented to the personal development of her child's intellect; thus she sees children's questions not as challenges to her status but as requests for information that will further his individual development (Bernstein, 1967, p. 92). The effect of negative reactions to the child's verbal questions will not only retard his intellectual development ("shut up!" is less informative than "the glass is made of plastic so it won't break") but will also depress the child's general use of language.

Some empirical support exists for this line of argument. Hess and Shipman (1965, p. 873) asked mothers from different social classes to teach their children how to perform several complicated tasks. Lower class mothers used more imperatives in this situation and fewer informative instructions.

Other empirical investigations on the instructions that lower and middle class mothers give their children as they enter school reveal additional negative attitudes that lower class children may bring to linguistic interactions in school. By interviewing mothers, Hess and Shipman (1965, p. 877) found that in preparing their children to go to school, middle class mothers were more likely to encourage their children to learn as much as possible and to ask the teacher questions whenever things were unclear, while lower class mothers

were more likely to tell their children to be obedient and stay out of trouble.

Thus, this fragmentary evidence suggests that the lower class child enters school with a hesitancy to question, to initiate verbal interactions with adults, and in general to gain information through verbal means. This is an important social constraint on language performance that should be dealt with in a compensatory language program.

V. Studies of Semantics and Cognitive Development

Section III of this paper dealt with hypotheses about social class language differences in the areas of phonology and syntax. The fourth section, on variations in language performance related to communication situations, also dealt with hypotheses about syntax; i.e., syntactic complexity as a variable dependent upon the interaction of characteristics of speakers with characteristics of situations. In addition, the fourth section touched on related issues usually considered to lie in the area of semantics (i.e., the use of precise referential language). Section V discussed additional aspects of semantics which have implications for a compensatory language program.

As was indicated earlier, transformational grammar has not formulated a useful semantic theory. Nor has anyone else. In contrast to the reasonably well-developed areas of phonology and syntax, semantics is a cloudy area where the best empirical information relevant to this paper comes from looking at several very specific areas of study. Some of this work lies on the borderline between studies of language and studies of cognition. Thus, it is sometimes necessary to clarify the language-cognition issues in a given area of research to point out the relevance of that research for the formulation of a compensatory language program.

A. Vocabulary Studies

Although there are many studies of vocabulary on record, most of them have been conducted within a testing tradition that tells us little about

the process by which words and their meanings are acquired and used. Although it is well known that lower class white and minority group students generally do worse on such tests than middle class whites (see, for example, Coleman et al., 1966, pp. 221-251), the fact that these tests focus on the general meanings of uncommon words makes it difficult to interpret such subcultural differences.

A number of distinctions seems helpful in interpreting subcultural differences in vocabulary development. First, one should make the distinction common to other areas of language study between comprehension and production. Most studies of vocabulary have concentrated on work comprehension rather than actual word use.

Within the comprehension area, one should distinguish between words which describe objects and activities which are likely to appear in the child's environment and those which are not. If a lower class child doesn't know the meaning of "sonata," it is likely to be because he has never been exposed to the word. If he doesn't know the meaning of the word "fireman," however, this may indicate a much more serious type of deficit. Perhaps the lower class child is less likely to have events and objects coded for him in language, and this results in later difficulties in the process of attaching words to their referents. Of particular interest in this connection are two studies of the comprehension vocabulary of lower class children. John and Goldstein (1963, p. 268) found that 6-year-old lower class children were inferior to middle class children in defining words describing common actions, such as "digging." Lesser et al, (1965, p. 13) found receptive vocabulary differences for first grade children from different social classes and ethnic groups on a word meaning test which employed only referents prominent in their urban environment.

Tests of production are rarer than tests of comprehension, but existing studies are consistent in the pattern of their results. Several investigators who have employed the type-token ratio in analyzing speech samples from children of different social classes have found that the lower class children used fewer different words than middle class children (e.g., Deutsch, 1967, p. 199). Other investigators have compared the variety of words in specific grammatical categories employed by speakers from different social classes. Bernstein (1962a, p. 299) found that lower class speakers used fewer uncommon adjectives, adverbs, and conjunctions, and Lawton (1964, p. 193) also found uncommon adjectives and adverbs (as judged by word-frequency counts) less common in lower class speech. Notice that these findings support Bernstein's contention that lower class speech should not only be more constrained on the structural syntactic level, but also on the lexical level.

These studies of vocabulary comprehension and production have important implications for a compensatory program. The educator cannot assume that if he avoids exotic words his students will understand his speech. He must be prepared to teach a process by which words are attached to their referents and to begin with objects and actions in the child's own environment. He must begin there not because this area is "familiar" to the child, but because in spite of its familiarity, it is not adequately coded in his language system. Furthermore, not only passive recognition of vocabulary should be taught, but also the active use of such vocabulary items.

B. Category Formation

The literature on what has been called category formation, superordinate concept formation, and classification behavior lies in a disputed area between the study of semantics and the study of cognitive structures. Younger children, confronted with an array of objects--animals, human dolls, kitchen utensils, and vehicles, for example--and asked to put the ones together that go together,

tend to make mixed groupings (complexive groupings) which they justify by using "thematic" verbal explanations (e.g., "The lady drives the car"). Older children begin to use more consistent superordinate groupings, sometimes based on perceptual reasons ("They all have wheels"), sometimes on functional reasons ("You can cook with them all"), and sometimes on nominal reasons ("They are all animals"). This is a crude overview of trends with age subject to many qualifications, especially about the precise nature of the task employed and the materials used. However, this general trend has been observed by a number of investigators (e.g., Inhelder and Piaget, 1958, pp. 1-35; Annett, 1959, p. 234; Thompson, 1941, p. 123).

The role that language plays in the development of this ability is subject to a great deal of dispute. Vigotsky (1962, p. 59) and Bruner et al. (1966, pp. 30-67) argue that the child's ability to direct behavior like classification through language is the most advanced stage of intellectual development. Inhelder and Piaget give language an important but clearly secondary role in intellectual development, especially during the preschool years. With specific reference to classification, they state:

> ...we could give language no more than an auxiliary role (e.g. that of an accelerator). We might even say that while language is necessary for the completion of these structures, it is insufficient for their formation...(Inhelder and Piaget, 1958, p. 2).

Piaget attributes the development of classification and of other cognitive abilities to the growth of intellectual operations, which are an elaboration of perceptual and motor schemas (Inhelder, 1966, p. 160). The testable implication of Piaget's position seems to be that no amount of linguistic training will accelerate the appearance of the ability to sort objects into consistent and exhaustive categories.

With this controversy in mind, it is important to note the precise nature of social class differences in such classification behavior. Sigel (1965, p. 6) studied middle and lower class children (ages 3 to 5) on an object sorting task employing familiar objects. He scores the reasons children give for making certain groupings as relational, descriptive, and categorical. He found more relational sortings in the lower class subjects and more descriptive and categorical sortings in the middle class, thus suggesting that lower class subjects operate on a developmentally less advanced level than middle class children. Hess and Shipman (1965, p. 883) administered a sorting task to 4-year-old children and employed a scoring scheme similar to Sigel's. In scoring the verbal responses of children from different social classes, they found more nonresponses and relational responses among lower class children and more descriptive and categorical responses in the middle class.

John and Goldstein (1963, p. 271) scored the nonverbal responses (the sortings themselves) of children of different social class into true subordinate sortings vs. mixed sortings. They found no differences in these nonverbal scores at the first grade, but they did find differences at the fifth grade.

Hess and Shipman and Sigel find differences across social class for 3- to 5-year-olds on tasks where the quality of the verbal explanation is ranked on a developmental scale, while John finds no differences at the first grade on a nonverbal sorting task. Consistent with these findings are those of Kaplan and Mandel (1967, p. 10), who report significant social class differences among boys 6 to 12 in the quality of verbal reasons on a sorting task but no difference by social class on a nonverbal scoring of the sortings. The authors are not explicit about their scoring scheme or controls for social class.

The findings of Stodolsky (1965, pp. 41-55) are generally in accord with those cited above. Using a sorting task devised by Kohlberg, she was able to assign both a verbal and nonverbal score to the sortings of her 5-year-old subjects. She found significant differences between her middle- and lower-lower class subjects on both the verbal and nonverbal sorting scores, although differences were much greater on the verbal task. If one equates her "associative" grouping with the "thematic" grouping described earlier, the middle class employs proportionally more true category sortings and fewer relational groupings than the lower class on both the verbal and nonverbal task.

Thus, verbal differences are greater than nonverbal differences when young children from different social classes perform sorting tasks, and nonverbal differences are sometimes not observed. The verbal responses of middle class children are more often superordinate reasons, while lower class children often give a thematic verbal response or none at all.

Returning to the Bruner-Piaget dispute, one could accept Piaget's view that language is not the decisive mechanism of cognitive development and still argue strongly for training lower class children in the language of superordinate category formation. For it appears that in children of the same age from different social classes, the basic operational structures are present (as exemplified by small or nonexistent differences in children's nonverbal sorting scores), while differences in the language used to describe such sortings is the major deficit that separates lower class from middle class children. If, on the other hand, Bruner's view is more correct, then such language training becomes even more important.

C. Language Associated with Conservation and Nonconservation

The experiments of Piaget and his associates concerning conservation of volume provide more evidence about specific aspects of language performance than are associated with more advanced cognitive development. In an effort to

test the hypothesis that specific language training would accelerate the time at which children acquired conservation, Sinclair, a student of Piaget's, first distinguished three major differences between the language of children who possessed conservation in contrast to children who did not (reported in Inhelder, 1966, p. 162-163). In a task where they were asked to describe the differences between objects and between sets of objects, she found that children with conservation used:

(1) More relational terms ("That one is larger than that one," instead of "That one is big. That one is small"),

(2) More differentiated descriptions ("That one is thin," instead of "That one is little"),

(3) More coordinated descriptions of objects differing on two dimensions ("That one is longer, but it is thinner").

An attempt to train children without conservation in these verbal skills did not produce conservation. However, the training procedure used by Sinclair was inadequate. The children were taught to use the types of descriptions outlined above in a single session and in a highly structured situation. In contrast, the conservation task was a much freer situation in which no cues were given by the experimenter as to what types of language were appropriate. The significance of this shift in situations is made apparent by the training experiment of Bereiter and Engelmann (1966, p. 52). They found that it was 10 weeks after improvements in language performance were observed in a structured situation that they transferred to an unstructured situation. Thus, Piaget's 1 day training experiment was an inadequate test. The role of language as an accelerator of this cognitive task is still in question, but Sinclair has given us valuable information about specific characteristics of language use that are associated with more advanced cognitive functioning.

Although no tests for social class differences in the use of these types of description have been undertaken, it seems quite likely, on the basis of the work described in Section IV of this paper (e.g., Krauss and Rotter, 1968), that such differences would appear. Some specific but fragmentary support for this position comes from the observation of Bereiter (1968, p. 2) that lower class children have trouble with what Sinclair has called "coordinated" descriptions. Specifically, he reports that lower class children fail to see that coordinated description like "tall and short" are inappropriate.

VI. Additional Investigations

Several additional fields of study provide useful insights for the development of a compensatory language program, although they do not fit neatly into the major rubrics under which research has been considered thus far.

A. Language Skills Associated with Success in Reading

Another way to approach the problem of designing a compensatory language curriculum is to ask what types of language skills are associated with success or difficulty in later schoolwork. The skill of reading is so central to any school program that there is little question that it is important to develop language performance which will form a basis for reading success.

Evidence that specific differences in the syntax and phonology of dialects may cause communication difficulties was examined earlier (pp. 8-15). Labov (1967, p. 161) presents specific evidence that a few such differences (e.g., the dropping of the -ed) may cause reading difficulties. He found, for example, that the majority of Negro children in his sample were unable to recognize that in reading the sentence "I looked for him when I read his name," they should recognize that the -ed on "looked" signals that "read" should be past tense. If a preschool program is to prepare a child to face such problems in elementary school, it seems that the same type of

approach that was suggested to overcome possible difficulties in students' verbal comprehension because of dialect differences should be employed; i.e., emphasis on comprehension of contrasts in standard English through extensive contact with a standard English speaker, without an attempt to change the child's own speech patterns.

Several investigators have studied the relationship between complexity of oral language use and reading success. Martin (1955, p. 170) failed to find any relationship between the complexity of children's language in a speech sample and success in reading at the first grade level. Strickland (reported in Chall, 1967, p. 158) also failed to find a relation between the complexity of language and reading ability at the second grade level but did find such a relationship at sixth grade. Consistent with Strickland's results is Loban's 6-year longitudinal study of grade school children. Like the other investigators, he failed to find a significant relationship between complexity of oral language use and reading ability in grades 1 and 2. However, he found an increasingly significant relationship in the next four grades. At sixth grade the oral language use of the children was an extremely significant prediction of both exceptional reading success and exceptional failure. Furthermore, Loban's longitudinal design allows him to conclude that those children who had the best oral language abilities at grade 1 are those who read best at grade 6. This finding underscores the importance of early development of the types of oral language skills outlined in Sections IV and V.*

Finally, Chall (1967, p. 149) reports that the most important characteristic of preschool programs associated with success in beginning reading is training in the names and sounds of letters. Thus, these appear to be another important class of referents which should be taught in a compensatory language program.

---

* Alternatively, it may be that the reading methods employed relied too heavily on oral language and that methods could be developed which would teach children with low oral language ability to read as well as those with high ability.

B. Direct Observation of Children

A number of investigators have commented that child development research has attempted to move to highly specific experimentation without first collecting broad observations of the total child in his own milieu (e.g., White, 1967). In this way, White argues, many obvious facts about development are overlooked. White's own preliminary results from the observation of preschool children contain several findings that are relevant to a compensatory language curriculum. He found that children generally classified as incompetent on a wide range of social and intellectual tasks, lacked the "ability to get and maintain the attention of the teacher" and the "ability to use the teacher as a resource" (White, 1967, p. 15). Related to this observation is a finding of Tough (1969) that lower class 3-year-olds are less likely than their middle class counterparts to ask questions that seek explanation.

Other observations specifically aimed at isolating language difficulties of lower class children were undertaken by Bereiter and Engelmann (1966) and were used in developing the curriculum for their well-known training experiment. Their global summary of the language difficulties of lower class children seems highly doubtful:

> The speech of the severely deprived children seems to consist not of distinct words, as does the speech of middle-class children of the same age, but rather of whole phrases or sentences that function like giant words. That is to say, these "giant word" units cannot be taken apart by the child and recombined; they cannot be transformed from statements to questions, from imperatives to declaratives, and so on. Instead of saying "He's a big dog," the deprived child says "He bih daw." Instead of saying "I ain't got no juice," he says "Uai-ga-na-ju." Instead of saying "That is a red truck," he says "Da-re-truh." (Bereiter and Engelmann, 1966, p. 34).

Bereiter's assertion that severely deprived children speak in "giant sentence words" is not supported by the evidence presented in his statement above. Although his rendition of sentences from his subjects may strike the average reader as extremely odd, closer inspection indicates that these sentences merely reflect minor syntactic and phonological contrasts between Negro dialect

and standard English reviewed earlier (pp. 9-21), including omission of "be" and consonant cluster simplification. For example, the difference between "That is a red truck" and "Da-re-truh" is the omission of the copulative "is" plus the weakening of the final consonants "t," "d," and "k."

Bereiter's assertion also runs counter to evidence presented earlier based on the data of Cazden (1965), Osser (1967), Shriner and Miner (1967), and Baratz (1968) that indicates no significant differences by race and social class in the development of the syntactic competence that allows children to substitute words in complex syntactic patterns (as reviewed on pp. 20-26).

It might be argued that results of Bereiter's observations differed from the results of other investigations because the children he observed were more severely deprived. In discussing this point, it is important to distinguish between his observation group and his experimental group. The experimental group were chosen because an older sibling had suffered academic failure in school. Of the observational group, he says only that they consisted of 80 disadvantaged Negro preschool children, 30 of whom were observed intensively and 50 less intensively. Thus, there is no evidence that these children were any more severely deprived than the lower class children tested in the studies reviewed on pages 20-26, most of whom were selected because of attendance in lower class schools or in Head Start.

Finally, Bereiter's assertion runs counter to evidence summarized by Lenneberg (1967) which indicates that children

in a wide variety of environmental circumstances acquire syntactic competence of the same type and at about the same rate, barring fairly severe brain damage or extreme isolation (e.g., the child who is kept in a closet for most of his life).

On the level of more specific deficiencies in lower class language use, however, Bereiter and Engelmann provide a number of interesting observations. They find lower class children:

(1) are unable to answer questions based on information provided in simple sentences. ("Puppies are baby dogs. What are puppies?")

(2) do not understand the meanings of prepositions and conjunctions like "or."

(3) do not understand logical negation. ("Show me something that is not red.")

(4) do not understand that pharases joined by "and" can be reversed. ("What's another way to say 'red' and 'green'?")

One problem with these observations is that there is no data presented on social class differences in these language skills. They may be difficult for middle class preschool children as well. However, like the observations of Sinclair (Inhelder, 1966), they provide possible further specification of specific language skills that might be included in a compensatory language program.

VII. Summary of Language Skills Described So Far

Table II lists the language skills which have been judged thus far to be important ingredients in a compensatory language program. Although they have been derived from diverse perspectives on subcultural language differences, the skills listed seem to have a loose coherence and focus on what might be called the referential use of language. The use of an elaborated syntax is closely interdependent with the system of modification needed to express

TABLE II.

Language Skills for a Compensatory Language Program

Skill	Investigator
A. Use of elaborated syntax:	
1. complex verb phrases	Bernstein, 1962
2. complex noun phrases	Loban, 1963; Tough, 1969
3. subordination	Bernstein, 1963
4. infinitives	Loban, 1963
B. Use of a precise language of reference:	
1. detailed description of parts of stimuli	Krauss and Rotter, 1967
2. modifiers which are relational, explicit, and coordinated	Inhelder, 1966
3. pronouns with prior referents	Hawkins, 1968 (in Cazden, 1968)
4. vocabulary which describes familiar objects and actions	John, 1964 and Lesser, 1965
C. Use of superordinate class names	Stodolsky, 1965
D. Use of the following classes of words:	
1. uncommon adjectives	Bernstein, 1962
2. uncommon adverbs	Bernstein, 1962
3. logical connectives	Bereiter, 1967
4. negatives	Bereiter, 1967
E. Social:	
1. ability to get and maintain teacher's attention	White, 1967
2. ability to ask questions of teacher	Hess and Shipman, 1967
F. Ability to use information to give appropriate answers to questions	Bereiter, 1967
G. Reversal of conjoined words and phrases	Bereiter, 1967
H. Comprehension of Contrasts between one's own speech and the standard dialect	

precise reference in spite of the cognitive demands of a communication situation. Also connected with an adequate reference system is the use of superordinate class names and ability to name common objects and actions.

A child able to employ these language skills could communicate a message with a minimum of dependence on gestures, previous knowledge shared with his listener, or dependence on visual props in the situation. Bruner has asserted that the most important ability acquired through schooling is the ability to "operate intellectually in the absence of a concrete situational context" (Bruner et al, 1966, p. 316). The language skills in which we have observed subcultural differences seem to be closely associated with this ability. They should form the core of any compensatory language program that hopes to allow children to function in school without being handicapped by their social background.

VIII. Teaching Situations

Although there is a paucity of evidence concerning the effectiveness of various teaching strategies and situations employed in preschool language programs, enough evidence exists so that specifically stated hypotheses can be framed that can be tested in training experiments. Again it is important to keep in mind the point made earlier (pp. 5-6), that not all lower class children (as designated by objective status indices) resemble group norms in terms of their language abilities. It is an empirical question as to which sorts of individuals within the lower class group would profit from a given type of preschool language program. The following discussion applies with most force to those children who are fairly close to the norms for the lower class group.

It seems profitable to distinguish between three general types of instructional situations: free play situations with informal emphasis on verbal skills, training situations in which the teacher's response is made

contingent on the child's, and training situations in which the child's response is made contingent on the teacher's.

A. Informal Emphasis on Verbal Skills

The first situation is the one that predominates in most nursery school and Head Start programs. It has been transferred into programs for lower class students from a nursery school movement which was developed essentially for middle class children. An analysis of the cognitive and social demands of this situation makes it extremely unlikely that it facilitates the development of the skills outlined in Table II. With respect to cognitive demands, the situation seems quite similar to the middle class home situations studied by Brown. Students and teachers probably use the same sort of vague referential language characteristic of this situation. With respect to social demands and characteristics of the situation, it seems to favor children who are capable of attracting and holding the teacher's attention, since the teacher sees herself as "helper" and assumes a passive role. As our earlier discussion of White's observations indicates, children who are capable of getting and holding the teacher's attention in such a situation are those likely to be the most advanced in intellectual development. In addition, previous discussion of the attitudes lower class children bring to linguistic interaction with adults indicates that lower class children are reluctant to take the verbal initiative with adults and are instructed to be passive in school by their mothers. Thus, those children who have the greatest need for verbal interaction with the teacher are probably those who communicate least: the less intellectually able are those children who have been socialized into the negative attitudes toward verbal interaction typical of lower class child rearing.

There seems to be good empirical support for these speculations. Some protocols of children's speech in a typical Head Start free play situation have been collected by the Institute for Developmental Studies of New York

University. My preliminary analysis of this data indicates that these children almost never specify the subject of an utterance with a precise noun or noun phrase and that their sentences are grammatically simple. Furthermore, a substantial percentage of the verbal output of the child consists of stereotyped sentences and phrases. Here, for example, are the utterances of one boy during a 5-minute sampling of his speech:

> Hey! Give me one ... You ate one ...
> Throw this away ... Throw this away ...
> Throw this away ... He, He talks like
> that ... Looky his feet ... Let me
> take one these ... Not me! Not me!
> ...

Further negative evidence about the value of such situations for language development comes from Bereiter and Engelmann (1966, pp. 15-16). Reviewing the evidence on this type of compensatory program, they find no program that has brought lower class children up to age norms on verbal skills.

B. Teacher's Response Contingent on Students

An example of this type of teaching situation is Cazden's (1965) experiment on the effects of extension vs. expansion in children's syntactic development. According to transformational theory concerning syntactic development the child functions as a theory constructor with a great deal of preprogrammed processing equipment (Chomsky, 1965, pp. 53-55). It has been suggested that the best way to facilitate syntactic development is to provide the child with a rich and varied sample of adult speech as raw materials for this theorizing. Cazden's (1965) results (in which the most effective language treatment was one in which the children's verbalizations were "extended" by the tutor) have been interpreted as supporting this argument. There is even some evidence that overt response

is not necessary to syntactic development. Lenneberg (1962) reports the case of a child who developed quite sophisticated comprehension although he could not speak. Exact imitation of adult speech is considered valueless in syntactic development (Ervin, 1964, p. 172).

However, as was indicated earlier, the development of syntactic competence does not seem to be an area of significant social class differences. Children of different social classes do not seem to differ in important respects in the rules that comprise their competence or in the speed with which they acquire these rules. It appears, as Cazden concludes, that children's syntactic development does not seem to be sensitive to differences in the quality of mother's speech (Cazden, 1967, p. 15). Perhaps only a minimum level of speech stimulation, available to almost all children, is necessary for adequate syntactic development of basic grammatical rules.

However, as our review of the literature demonstrated, it is not possession of the basic rules in one's competence, but the appropriate use of this rule in particular situations and the elaboration of the basic rule to create more complex syntactic structures that seem to be the key to social class language differences that will have consequences for school situations. The extension situation and others in which the teacher's response is contingent seem to have some potential value in developing these skills of language use. The teacher should be able to set up the physical situtions for such interactions in a way that will promote referential language use.

Furthermore, sustained discourse with an adult in a tutorial situation should in itself promote more precise expression. Finally, since Cazden reports that many of her tutors' responses were questions, it seems that the tutor is still exercising a measure of control in the extension situation which could be directed toward developing the types of language skills outlined in Table II.

C. Student Responses Shaped by Teacher

In a third type of situation, the teacher plays a more active shaping role, structuring the situation to elicit specific sentence types, modifiers, appropriate use of superordinate category names, etc. If, as I have argued, the most important general ability for the lower class child to acquire is the ability to use a highly specific type of referential language in particular situations, this third type of training situation should be most effective in developing the specific prerequisite skills outlined in Table II. Bereiter and Engelmann (1966) have provided a model of such a program and have produced impressive evidence about gains in IQ and language skill of children who have participated in it.

A number of objections have been raised to this approach and it is important to consider them briefly.

First, such a program involves a great deal of structured drill and repetition. Bereiter and Engelmann, for example, made extensive use of sentence imitation, much in the same way that pattern drills are used in teaching a foreign language. For those who object to such repetitive practice, Elkind's comments seem especially appropriate:

> One of the features of cognitive growth that Piaget and Montessori observed and to which they both attached considerable importance, is the frequently repetitive character of behaviors associated with emerging mental abilities. Piaget and Montessori are almost unique in this regard since within both psychology and education repetitive behavior is often described pejoratively as "rote learning" or "perseveration." Indeed, the popular view is that repetition is bad and should be avoided in our dealings with children. What both Piaget and Montessori have recognized, however, is the very great role which repetitive behavior plays in mental growth. (Elkind, 1967, pp. 541-542).

Thus, it appears that repetition that is done at a more leisurely pace by the middle class child must be compressed into a shorter period in a compensatory program that is going to make a difference.

Second, it is inaccurate to maintain that the majority of responses in such a program need to be or should be pure rote. Tasks can be designed in which extremely sophisticated thinking is involved in spite of the fact that the teacher can anticipate what an acceptable response will be.

Third, and finally, the tone of Bereiter and Engelmann's work suggests that the gains that students in their program made can be accomplished only at the cost of repressive regimentation (e.g., they advise teachers to give unruly students a good shaking or lock them in a dark closet). It is certainly possible to set up a structured tutoring situation in which a warm relationship exists between student and teacher, in which there is a great deal of tolerance for diversions, and in which a portion of the total program is still devoted to other kinds of activity.

Handled in this way, and incorporating practice in the use of the language skills outlined in Table II, this third type of instructional situation would seem the most effective one for teaching the grammatically elaborated and referentially precise language use that seems to be the major subcultural language deficit that has adverse effects on the educability of preschool children.

Summary

This paper has reviewed the literature on subcultural differences in language development to determine what this literature suggests about the nature of a language program for lower class 4-year-olds. This review reaches the following major conclusions:

(1) That differences in syntactic and phonological competence are not important barriers to communication for the lower class preschool child and should not be the focus of preschool language training.

(2) That, of the many subcultural differences in language, the major difference which puts the average lower class child at a disadvantage in the educational process is his relative lack of ability in using a precise language of description, especially in situations where (1) speakers cannot rely on previously shared information, (2) the speaker must specifically describe referents which are not perceptually present or about which the listener lacks information, and (3) the bulk of the communication load falls on the language code itself, as opposed to such extralinguistic activities as gesturing.

(3) That the literature on subcultural differences in language use is rich enough at this point to provide evidence of many of the specific language skills which comprise the use of this "abstract" type of language.

(4) That the traditional preschool is not likely to foster the use of these specific language skills which the lower class child needs most to master.

(5) That of two broad types of more focused language intervention programs (one in which the teacher's response is contingent on the child's and one in which the child's response is contingent on the teacher's), the latter, more highly structured program will probably be more successful in teaching the crucial language skills.

All of these contentions are, of course, arguable at this point in time, since the most valuable types of evidence needed to settle questions concerning the nature of subcultural language differences in young children and the effectiveness of preschool language intervention do not exist. With respect to the issue of subcultural differences in syntactic competence, for example, we lack longitudinal studies of language development in children of different social classes. With respect to the effectiveness of language interventio

programs, no more than a handful of carefully controlled language training experiments have ever been conducted in this country. The author is currently conducting a training experiment that attempts to assess the effect of teaching a precise language of referential description by the two major teaching methods analyzed in this paper (extension vs. pattern drill).

Continued research on subcultural language differences, coupled with constant attempts to translate these findings into language training experiments, will test the validity of the type of specific hypotheses advanced in this paper and other more refined ones that are put in their place.

BIBLIOGRAPHY

Annett, M. The classification of instances of four common class concepts by children and adults. British Journal of Educational Psychology, 1959, 29, 223-236.

Baratz, J.C. A bi-dialectal test for determining language proficiency. Unpublished paper, 1968.

Barber, B. Social stratification. New York: Harcourt, Brace, 1957.

Bellugi-Klima, U. The development of questions and negatives in the speech of three children. Special qualifying paper, Harvard Graduate School of Education, 1966.

Bellugi-Klima, U. The acquisition of the system of negation in children's speech. Doctoral dissertation, Harvard Graduate School of Education, 1967.

Bellugi-Klima, U. Grammatical comprehension tests. Unpublished paper, 1968.

Bereiter, C. Children's problems in coordinating language and reality. Paper presented at a conference on problems of teaching young children, University of Toronto, 1968.

Bereiter, C. and Engelmann, S. Teaching disadvantaged children in the preschool. Englewood Cliffs, New Jersey: Prentice-Hall, (c) 1966.

Berko, J. The child's learning of English morphology. Word, 1958, 14, 150-177.

Bernstein, B. Linguistic codes, hesitation phenomena and intelligence. Language and Speech, 1962, 5, 1-13. (a)

Bernstein, B. Social class, linguistic codes and grammatical elements. Language and Speech, 1962, 5, 221-240. (b)

Bernstein, B. Aspects of language and learning in the genesis of the social process. In D. Hymes (Ed.), Language in culture and society. New York: Harper and Row, 1964. Pp. 251-263.

Bernstein, B. A socio-linguistic approach to social learning. In J. Gould (Ed.), Penguin Survey of the Social Sciences 1965. Baltimore, Maryland: Penguin, 1965.

Blau, P. and Duncan, O. The American occupational structure. New York: Wiley, 1967.

Bloom, B., Davis, A., and Hess, R. Compensatory education for cultural deprivation. New York: Holt, Rinehart, and Winston, 1965.

The Board of Education of the City of New York. Nonstandard dialect. Champaign, Illinois: National Council of Teachers of English, 1968.

Brown, R., and Bellugi-Klima, U. Three processes in the child's acquisition of syntax. In E. Lenneberg (Ed.), New directions in the study of language. Cambridge, Massachusetts: MIT Press, 1964.

Brown, R., Cazden, C., and Bellugi-Klima, U. The child's grammar from I to III. Unpublished manuscript, 1967.

Bruner, J., Olver, R., and Greenfield, P. Studies in cognitive growth. New York: Wiley, 1966.

Cazden, C. Environmental assistance to the child's acquisition of grammar. Doctoral thesis, Harvard University, 1965.

Cazden, C. Subcultural differences in child language: An interdisciplinary review. Merrill-Palmer Quarterly, 1966, 12, 185-219.

Cazden, C. Individual differences in language competence and performance. Journal of Special Education, 1967, 2, 135-150.

Cazden, C. The acquisition of noun and verb inflections. Unpublished manuscript, 1967.

Cazden, C. The neglected situation in child language research and education. In F. Williams (Ed.), Language and poverty: Perspectives on a theme. Forthcoming.

Cazden, C. Three sociolinguistic views of the language of lower class children. Developmental Medicine and Child Neurology. Forthcoming.

Chall, J. S. Learning to read: The great debate. New York: McGraw-Hill, 1967.

Cherry-Piesach, E. Children's comprehension of teacher and peer speech. Child Development, 1965, 36, 467-480.

Chomsky, C. The acquisition of syntax in children from 5 to 10. Doctoral thesis, Harvard University, 1968.

Chomsky, N. Syntactic structures. The Hague: Mouton and Co., 1957.

Chomsky, N. Aspects of the theory of syntax. Cambridge, Massachusetts: MIT Press, 1965.

Chomsky, N. Topics in the theory of generative grammar. The Hague: Mouton and Co., 1966.

Cohen, P. Some methods in sociolinguistic research. Paper presented at the Research Planning Conference on Language Development in Disadvantaged Children, Yeshiva University, 1966.

Coleman, J., et al. Equality of educational opportunity. Washington, D.C.: U.S. Government Printing Office, 1966.

Deutsch, M., et al. The disadvantaged child. New York: Basic Books, 1967.

Elkind, D. Piaget and Montessori. Harvard Educational Review, 1967, 37, 535-547.

Ervin, Susan M. Imitation and structural change in children's language. In E. Lenneberg (Ed.), New directions in the study of language. Cambridge, Massachusetts: MIT Press, 1964. Pp. 163-189.

Ervin-Tripp, S. Sociolinguistics. Unpublished paper, 1967.

Ervin-Tripp, S. and Slobin, D. Psycholinguistics. Annual Review of Psychology, 1966, 17, 435-474.

Ferguson, C. Diglossia. In D. Hymes (Ed.), Language in culture and society. New York: Harper and Row, 1964. Pp. 429-439.

Gumperz, J. Linguistic and social interaction in two communities. In J. Gumperz and D. Hymes (Eds.), The ethnography of communication. American Anthropologist, 1964, 66 (6), Part 2, 137-153.

Halle, Phonology in generative grammar. In J. Fodor and J. Katz (Eds.), The Structure of Language. Englewood, New Jersey: Prentice-Hall, 1964.

Hawkins, P.R. Social class, the nominal group, and reference. Language and Speech, in press.

Heider, E. Style and effectiveness of children's verbal communications within and between social classes. Unpublished Doctoral Dissertation, Harvard University, 1968.

Hess, R. and Shipman, V. Early experience and socialization of cognitive modes in children. Child Development, 1965, 36, 869-886.

Hollingshead S. and Redlich, F. Social class and mental illness. New York: Wiley, 1958.

Hymes, D. Directions in (ethno) linguistic theory. In A.K. Romney and R.G. D'Andrade (Eds.), Transcultural studies in cognition. American Anthropologist, 1964, 66, (3), Part 2, 6-56. (a)

Hymes, D. Introduction: toward ethnographies of communication. In J.J. Gumperz and D. Hymes (Eds.), The ethnography of communication. American Anthropologist, 1964, 66, (6), Part 2, 1-34. (b)

Hymes, D. On communicative competence. Paper presented at the Research Planning Conference on Language Development in Disadvantaged Children, Yeshiva University, 1966.

Hymes, D. A model of the interaction of language and social setting. Social Issues, 1967, 23, 8-28.

Inhelder, B. and Piaget, J. The growth of logical thinking from childhood to adolescence. New York: Basic Books, 1958.

Inhelder, B., et al. On cognitive development. American Psychologist, 1966, 21, 160-164.

John, V. Communicative competence of low-income children: Assumptions and programs. Report to the Ford Foundation, 1967.

John, V. and Goldstein, L. The social context of language acquisition. Merrill-Palmer Quarterly, 1963, 10, 265-275.

Kahl, J. and Davis, K. The American class structure. New York: Rinehart and Company, 1953.

Kaplan, M. and Mandel, S. Age and social class factors in children's conceptual development. Paper read at Society for Research in Child Development, 1967.

Katz, J. and Postal, P. An integrated theory of linguistic descriptions. Cambridge, Massachusetts: MIT Press, 1967.

Klima, E. Negation in English. In J. Fodor and J. Katz (Eds.), The structure of language, Englewood, New Jersey: Prentice-Hall, 1964. (a)

Klima, E. Relatedness between grammatical systems. Language. 1964, 40, 1-20. (b)

Krauss, R. and Rotter, G. Communication abilities of children as a function of age and status. Merrill-Palmer Quarterly, 1968, 14, 161-173.

Labov, W. Stages in the acquisition of standard English. In R. Shuy (Ed.), Social dialects and language learning. Champaign, Illinois: National Council of Teachers of English, 1965.

Labov, W. In Frazier (Ed.), New directions in elementary English. Champaign, Illinois: National Council of Teachers of English, 1967.

Labov, W., et al. A study of the non-standard English of Negro and Puerto Rican speakers in New York City. Volume I. Unpublished manuscript, 1968.

Labov, W. and Cohen P. Systematic relations of standard and non-standard rules in the grammars of Negro speakers. Project Literacy Reports, 1966, 8.

Lawton, D. Social class language differences in group discussions. Language and Speech, 1964, 7, 183-204.

Lenneberg, E. Understanding language without ability to speak: A case report. Journal of Abnormal and Social Psychology, 1962, 65, 419-425.

Lenneberg, E. Biological foundations of language. New York: Wiley, 1967.

Lesser, G.S., Fifer, G., and Clark, D.H. Mental abilities of children in different social and cultural groups. Monographs of the Society for Research in Child Development, 1965, 30, (4), Serial No. 102.

Lin, S. Pattern practice in the teaching of standard English to students with a non-standard dialect. New York: Teachers College, Bureau of Publications, 1965.

Loban, W. The language of elementary school children. Champaign, Illinois: National Council of Teachers of English, 1963.

Loban, W. Problems in oral English. Champaign, Illinois: National Council of Teachers of English, 1966.

Macnamara, J. Bilingualism in the modern world. Social Issues, 1967, 23, 1-7.

Martin, C. Developmental relationships among language variables in first grade. Elementary English, 1955, 32, 167-171.

Miller, G. and McNeill, D. Psycholinguistics. In G. Lindzey and E. Aronson (Eds.), Handbook of social psychology. New York: Addison-Wesley, in press.

Moore, D. Competence and performance factors in the development of copulative sentences in children of different social classes. Unpublished paper, 1968.

Osser, H., Wang, M., and Zaid, F. The young child's ability to imitate and comprehend speech: a comparison of two subcultural groups. Child Development, 1969, 40, 1063-1075.

Pederson, L. Non-standard Negro speech in Chicago. In W.A. Stewart (Ed.), Non-standard speech and the teaching of English. Washington, D.C.: Center for Applied Linguistics, 1964. Pp. 16-23.

Rosenbaum, P. A grammar of English predicate constructions. Unpublished Ph.D. thesis, MIT, 1965.

Schatzman, L. and Strauss, A. Social class and modes of communication. American Journal of Sociology, 1955, 60, 329-338.

Shriner, T.H. and Miner, L. Morphological structures in the language of advantaged and disadvantaged children. Unpublished paper, 1967.

Sigel, I. Categorization behavior of lower and middle class Negro preschool children. Unpublished manuscript, 1965.

Slobin, D.I. Questions of language development in cross-cultural perspective. Unpublished manuscript, 1968.

Stewart, W.A. Urban Negro speech: Sociolinguistic factors affecting English teaching. In R.W. Shuy (Ed.), Social dialects and language learning. Champaign, Illinois: National Council of Teachers of English, 1965.

Stewart, W.A. Social dialect. Paper presented at the Research Planning Conference on Language Development in Disadvantaged Children, Yeshiva University, 1966.

Stodolsky, S. Maternal behavior and language concept formation in Negro preschool children: An inquiry into process. Unpublished doctoral dissertation, University of Chicago, 1965.